



## CLAIM LISTING

Please amend the Claims as follows:

This listing of claims will replace all prior versions, and listing, of claims in the application:

*Applicant has made a good faith effort to list each and every prior claim, including any amendments or changes thereto (or status thereof) in this "Listing" section, however, should there be any discrepancy between the previous version of a claim (or status thereof) and the listing not explicitly amended, canceled or otherwise changed by this amendment, only the previous version (and status thereof) should be referred to as the intent of the Applicant.*

### Listing of the Claims:

Claim 1. (Currently Amended)

A method for optimizing a publish/subscribe communication system within a network switch, wherein the network switch has at least a ~~switch and a~~ plurality of line modules for communicating data from trunk lines through the switch to other remote trunk lines across respective line modules across a first communication network, and said network switch has a second communication network separate from said first communication network for connecting outside of said first communication network at least a switching module in said network switch to at least ~~one~~ a first and second line module of the plurality of line modules, said method comprising:

a providing said network switch with a first communication coordinator within ~~one of the plurality of~~ said first line modules ~~to receive publications made to one or more event names receiving and a~~ a ~~subscription request over the second~~

communication coordinator within said second line modules, said first and second line modules being network, connected by at least said second communication network;

providing said first communication coordinator with at least a first application component;

~~said subscription request comprising an event expression that includes a namespace that can be correlated to a plurality of different event names;~~

generating a subscription request in said at least one application component;

sending a request based on said subscription request from said first communication coordinator to~~accessing within a control module connected to said plurality of line modules a set of information pertaining to a publisher, said information comprising a particular event name to which said publisher publishes; and resolving said event expression within said control module to determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said particular event modules, said request comprising an event expression which may be resolved to match a plurality of different event names;~~

said control module determining from said request a set of information pertaining to a publisher on a second line module, said set of information comprising a particular event name to which said publisher publishes; and

resolving said set of information within said control module to determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said particular event name;

in response to a determination that said particular event name constitutes a match for said event expression, providing said set of information pertaining to said subscriber to said second communication coordinator;

in response to said second communication coordinator receiving said set of information pertaining to said subscriber, said second communicator sending an event information published for said event name to said first communication controller; said first line module receiving said event information across said second communication network and determining whether to execute a predetermined set of program instructions to affect a change in the communication across the network switch first

communication network based on the value of the event  
information.

Claim 2. (Original)

The method of claim 1, wherein said event expression comprises one or more wildcard indicators.

Claim 3. (Original)

The method of claim 2, wherein resolving said event expression comprises:

performing pattern matching between said event expression and said particular event name.

Claim 4. (Previously Presented)

The method of claim 1, wherein said namespace is a hierarchical namespace.

Claim 5. (Original)

The method of claim 4, wherein said hierarchical namespace comprises one or more wildcard indicators in one or more hierarchical levels of said hierarchical namespace.

Claim 6. (Canceled.)

Claim 7. (Currently Amended)

The method of claim ~~6~~, 1, further comprising:

accessing a set of information pertaining to a second publisher, said set of information pertaining to said second publisher comprising a second particular event name to which said second publisher publishes;

resolving said event expression to determine whether said second particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said second particular event name; and

in response to a determination that said second particular event name constitutes a match for said event expression, providing said set of information pertaining to said subscriber to a second communication coordinator associated with said second publisher.

Claim 8. (Original)

The method of claim 7, wherein said first particular event name and said second particular event name are different event names.

Claim 9. (Currently Amended)

A method for optimizing a publish/subscribe communication system within a network switch, wherein the network switch has at least a plurality of line modules for communicating data from trunk lines through the switch to other remote trunk lines across respective line modules across a first communication network, and said network switch has a second communication network separate from said first communication network for  
~~switch and a plurality of line modules for communicating data from trunk lines through the switch to other remote trunk lines across respective line modules across a first communication network, and said network switch has a second communication network separate from said first communication network for~~  
~~connecting outside of said first communication network at least a switching module in said switch to at least one of the plurality of line modules, said~~ connecting outside of said first communication network at least a switching module in said  
network switch to at least a first and second line module of the plurality of line modules, said method comprising:

providing said network switch with a first communication coordinator within said first line modules and a second communication coordinator within said second line modules, said

first and second line modules being connected by at least said  
second communication network;

providing said first communication coordinator with at  
least a first application component;

generating a publication announcement in said at least one  
application component ;

receiving an announcement based on said publication  
announcement from said first communication coordinator in a  
control module connected to said plurality of line modules, said  
announcement comprising an event expression which may be  
resolved to match a plurality of different event names;

said control module determining from said announcement a  
set of information pertaining to a subscriber on a second line  
module, said set of information comprising a particular event  
name to which said publisher publishes; and

~~a communication coordinator within one of the plurality of~~  
~~line modules~~receiving resolving said set of information within  
said control module to determine whether said particular event  
name constitutes a match for said event expression, thereby  
determining whether said subscriber should receive one or more  
publications made to said particular event name;

in response to a determination that said particular event  
name constitutes a match for said event expression, providing

said set of information pertaining to said subscriber to said first communication coordinator;

in response to said first communication coordinator receiving said set of information pertaining to said subscriber, said first communicator sending an event information published for said event name to said second communication controller; said second line module receiving said event information across said second communication network and determining whether to execute a predetermined set of program instructions to affect a change in the communication across the network switch first communication network based on the value of the event information.

Claim 10. (Original)

The method of claim 9, wherein said event expression comprises one or more wildcard indicators.

Claim 11. (Currently Amended)

The method of claim ~~10~~, 9, wherein resolving said event expression comprises:

performing pattern matching between said event expression and said particular event name.



Claim 12. (Original)

The method of claim 9, wherein said event expression comprises a hierarchical namespace.

Claim 13. (Original)

The method of claim 12, wherein said hierarchical namespace comprises one or more wildcard indicators in one or more hierarchical levels of said hierarchical namespace.

Claim 14. (Canceled.)

Claim 15. (Currently Amended)

The method of claim 13 ~~14~~, further comprising:  
receiving a second publication announcement indicating a  
desire to publish to a second particular event name;

accessing said set of information pertaining to said  
subscriber;

resolving said event expression to determine whether said  
second particular event name constitutes a match for said event  
expression, thereby determining whether said subscriber should  
receive one or more publications made to said second particular  
event name; and

in response to a determination that said second particular event name constitutes a match for said event expression, providing said set of information pertaining to said subscriber to a sender of said second publication announcement.

Claim 16. (Original)

The method of claim 15, wherein said first particular event name and said second particular event name are different event names.

Claim 17. (Currently Amended)

An apparatus for facilitating publish/subscribe communication within a network switch, wherein the network switch has at least a switch and a plurality of line modules for communicating data from trunk lines through the switch to other remote trunk lines across respective line modules across a first communication network, and said network switch has a second communication network separate from said first communication network for connecting outside of said first communication network at least a switching module in said switch to at least ~~one~~ a first and second line module of the plurality of line modules, said apparatus comprising:

a communication coordinator in said first line module for receiving a subscription request across the second communication network within a line module to receive publications made to one or more event names, said subscription request comprising an event expression that includes a namespace that can be correlated to a plurality of different event names;

a namespace server located within a control module for accessing a set of information pertaining to a publisher, said information comprising a particular event name to which said publisher publishes; and

~~wherein~~ a lookup table for said namespace server ~~resolves~~ to resolve said event expression to determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said particular event ~~name~~ name;

an event publisher on said second line module for receiving information pertaining to said subscriber and for in response to said received information, sending an event information for said event name to said communication coordinator on said first line module;

an application of said first line module for determining whether to execute a predetermined set of program instructions

to affect a change in the communication across the network  
switch first communication network based on the value of the  
event information.

Claim 18. (Original)

The apparatus of claim 17, wherein said event expression comprises one or more wildcard indicators.

Claim 19. (Original)

The apparatus of claim 18, wherein the mechanism for resolving said event expression comprises:

a mechanism for performing pattern matching between said event expression and said particular event name.

Claim 20. (Previously Presented)

The apparatus of claim 17, wherein said namespace is a hierarchical namespace.

Claim 21. (Original)

The apparatus of claim 20, wherein said hierarchical namespace comprises one or more wildcard indicators in one or more hierarchical levels of said hierarchical namespace.

Claim 22. (Canceled)

Claim 23. (Currently Amended)

The apparatus of claim ~~22~~, 17, further comprising:

a mechanism for accessing a set of information pertaining to a second publisher, said set of information pertaining to said second publisher comprising a second particular event name to which said second publisher publishes;

a mechanism for resolving said event expression to determine whether said second particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said second particular event name; and

a mechanism for providing, in response to a determination that said second particular event name constitutes a match for said event expression, said set of information pertaining to said subscriber to a second communication coordinator associated with said second publisher.

Claim 24. (Original)

The apparatus of claim 23, wherein said first particular event name and said second particular event name are different event names.

25-32. (Canceled)

Claim 33. (Currently Amended)

A computer readable medium comprising instructions which, when executed by one or more processors, cause the one or more processors to facilitate publish/subscribe communication within a network switch, wherein the network switch has at least a switch and a plurality of line modules for communicating data from trunk lines through the switch to other remote trunk lines across respective line modules across a first communication network, and said network switch has a second communication network separate from said first communication network for connecting outside of said first communication network at least a switching module in said switch to at least one of the plurality of line modules, said computer readable medium comprising:

instructions by a communication coordinator within a first line module of said plurality of line modules for causing one or

more processors within one of a plurality of line modules to receive a subscription request to receive publications over the second communication network made to one or more event names, said subscription request comprising an event expression which may be resolved to match a plurality of different event names;

instructions for causing one or more processors within a control module, connected to said plurality of line modules, to access a set of information pertaining to a publisher, said information comprising a particular event name to which said publisher publishes; and

instructions for causing said one or more processors within said control module to resolve said event expression to determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said particular event ~~name~~-name;

instructions for causing said one or more publications to be sent to said communication coordinator on said first line module across said second communication network;

wherein an application on said first line module receives one or more of said publications from said communication coordinator and determines whether to execute a predetermined set of program instructions to affect a change in the

communication across the network switch first communication  
network based on the value of one or more of said publications.

Claim 34. (Original)

The computer readable medium of claim 33, wherein said event expression comprises one or more wildcard indicators.

Claim 35. (Original)

The computer readable medium of claim 34, wherein the instructions for causing one or more processors to resolve said event expression comprises:

instructions for causing one or more processors to perform pattern matching between said event expression and said particular event name.

Claim 36. (Original)

The computer readable medium of claim 33, wherein said event expression comprises a hierarchical namespace.



Claim 37. (Original)

The computer readable medium of claim 36, wherein said hierarchical namespace comprises one or more wildcard indicators in one or more hierarchical levels of said hierarchical namespace.

Claim 38. (Original)

The computer readable medium of claim 33, wherein said subscription request comprises a set of information pertaining to a subscriber, and wherein said computer readable medium further comprises:

instructions for causing one or more processors to provide, in response to a determination that said particular event name constitutes a match for said event expression, said set of information pertaining to said subscriber to a communication coordinator associated with said publisher.

Claim 39. (Original)

The computer readable medium of claim 38, further comprising:

instructions for causing one or more processors to access a set of information pertaining to a second publisher, said set of information pertaining to said second publisher comprising a

second particular event name to which said second publisher publishes;

instructions for causing one or more processors to resolve said event expression to determine whether said second particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said second particular event name; and

instructions for causing one or more processors to provide, in response to a determination that said second particular event name constitutes a match for said event expression, said set of information pertaining to said subscriber to a second communication coordinator associated with said second publisher.

Claim 40. (Original)

The computer readable medium of claim 39, wherein said first particular event name and said second particular event name are different event names.

Claim 41. (Currently Amended)

A computer readable medium comprising instructions which, when executed by one or more processors, cause the one or more processors to facilitate publish/subscribe communication within

a network switch, wherein the network switch has at least a switch and a plurality of line modules for communicating data from trunk lines through the switch to other remote trunk lines across respective line modules across a first communication network, and said network switch has a second communication network separate from said first communication network for connecting outside of said first communication network at least a switching module in said switch to at least one of the plurality of line modules, said computer readable medium comprising:

instructions by a communication coordinator on a first one of said plurality of line modules for causing one or more processors within one of a plurality of line modules to receive a publication announcement over the second communication network indicating a desire to publish to a particular event name;

instructions for causing one or more processors within a control module, connected to said plurality of line modules across said second communication network, to access a set of information pertaining to a subscriber, said information comprising an event expression which may be resolved to match a plurality of different event names; and

instructions for causing said one or more processors within said control module to resolve said event expression to

determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscriber should receive one or more publications made to said particular event ~~name~~-name;

instructions for causing said one or more publications to be sent to said communication coordinator on said first line module across said second communication network;

wherein an application on said first line module receives at least one of said one or more publications from said communication coordinator and determines whether to execute a predetermined set of program instructions to affect a change in the communication across the network switch first communication network based on the value of one or more of said publications.

Claim 42. (Original)

The computer readable medium of claim 41, wherein said event expression comprises one or more wildcard indicators.

Claim 43. (Original)

The computer readable medium of claim 42, wherein the instructions for causing one or more processors to resolve said event expression comprises:

instructions for causing one or more processors to perform pattern matching between said event expression and said particular event name.

Claim 44. (Original)

The computer readable medium of claim 41, wherein said event expression comprises a hierarchical namespace.

Claim 45. (Original)

The computer readable medium of claim 44, wherein said hierarchical namespace comprises one or more wildcard indicators in one or more hierarchical levels of said hierarchical namespace.

Claim 46. (Original)

The computer readable medium of claim 41, further comprising:

instructions for causing one or more processors to provide, in response to a determination that said particular event name

constitutes a match for said event expression, said set of information pertaining to said subscriber to a sender of said publication announcement.

Claim 47. (Original)

The computer readable medium of claim 46, further comprising:

instructions for causing one or more processors to receive a second publication announcement indicating a desire to publish to a second particular event name;

instructions for causing one or more processors to access said set of information pertaining to said subscriber;

instructions for causing one or more processors to resolve said event expression to determine whether said second particular event name constitutes a match for said event expression, thereby determining whether said subscriber should receive one or more publications made to said second particular event name; and

instructions for causing one or more processors to provide, in response to a determination that said second particular event name constitutes a match for said event expression, said set of information pertaining to said subscriber to a sender of said second publication announcement.

Claim 48. (Original)

The computer readable medium of claim 47, wherein said first particular event name and said second particular event name are different event names.

Claims 49 - 60. (Cancelled)

Claim 61. (Previously Presented)

The method of claim 1, wherein each of said plurality of line modules include a local table in which is stored information pertaining to a particularly one of said plurality of line modules.

Claim 62. (Previously Presented)

The method of claim 1, wherein the control module includes a namespace server that includes a global table containing all local table information from each of said plurality of line modules, the namespace server using information in the global table to coordinate communication throughout the network switch.

Claim 63. (Currently Amended)

A method for optimizing a publish/subscribe communication system within a network switch, wherein the network switch has at least a switch for communicating data from trunk lines through the switch to other remote trunk lines across a first communication network, and said network switch has a second underlying communication network separate from said first communication network for connecting outside of said first communication network at least a switching module in said switch to at least one of a plurality of communication modules in said network switch, said method comprising:

receiving within a communication coordinator within one of the plurality of communication modules ~~to receive~~ publications made to one or more event names receiving a subscription request over the second communication network, said subscription request comprising an event expression that includes a namespace that can be correlated to a plurality of different event names, said namespace including an address of at least one component of at least one of said plurality of communication modules;

accessing within a control module connected to said plurality of communication modules a set of information pertaining to a publisher, said information comprising a particular event name to which said publisher publishes; and



resolving said event expression within said control module to determine whether said particular event name constitutes a match for said event expression, thereby determining whether said subscription request is a request to receive one or more publications made to said particular event name across said second communication ~~network~~network;

in response to determining said subscription request is for said one or more publications made to said particular event name, sending at least one of said one or more publications to said communication coordinator;

in response to receiving said at least one publication, determining whether to execute a predetermined set of program instructions to affect a change in the communication across the network switch first communication network based on the value of said at least one publication.

64. (Previously Presented)

The method of claim 63 wherein said trunk lines are optical fibers.

Claim 65. (Previously Presented)

The method of claim 63 wherein said second communication network is an Ethernet backplane.

Claim 66. (Previously Presented)

The method of claim 64 wherein said trunk lines on said first communication network are optical fibers and wherein said second communication network is an Ethernet backplane.

Claim 67. (Previously Presented)

The method of claim 63 wherein communications across said second communication network combine to form a group selected from an intermediate communication layer and middleware.

Claim 68. (Previously Presented)

The method of claim 63 further comprising the step of:  
providing each one communication module with a local table to store at least publication and subscription information relevant to said one communication module.

Claim 69. (Previously Presented)

The method of claim 63 further comprising the step of:  
providing said network switch with at least a primary control module having a global table to store at least publication and subscription information relevant to each communication module connected to said second communication network.

70. (Previously Presented)

The method of claim 63 further comprising the step of:  
providing said network switch with at least a primary control module having a global table to store at least publication and subscription information relevant to each communication module connected to said second communication network;

providing said network switch with at least a secondary control module having a global table to store at least the publication and subscription information of said primary communication module to back up said primary control module; and

providing said network switch with at least a primary control module having a global table to store at least publication and subscription information relevant to each communication.